



## **Westerly Wind Bursts: ENSO's Tail rather than the Dog?**

**G. A. Gebbie** (1), I. Eisenman (1), A. Wittenberg (2), and E. Tziperman (1)

(1) Harvard University, Cambridge, Massachusetts, USA, (2) Geophysical Fluid Dynamics Laboratory, Princeton, New Jersey, USA, (gebbie@eps.harvard.edu / Phone: 1-617-495-4865)

Westerly wind bursts (WWBs) are westerly gusts in the equatorial Pacific that seem to occur more frequently and vigorously prior to El Niño events. Observational syntheses suggest that the occurrence and characteristics of WWBs may depend on the state of the oceanic warm pool rather than being purely stochastic external events as they have been treated in previous studies. In a preliminary study with the Cane-Zebiak model, we found that allowing the occurrence of WWBs to be modulated by the warm pool extent causes the amplitude of ENSO events to be twice as large as ENSO events forced by stochastic WWBs with the same average WWB frequency. Here, we examine the effect of WWB modulation by the warm pool extent on ENSO using a fuller hybrid coupled model - the Geophysical Fluid Dynamics Laboratory Modular Ocean Model version 4 coupled to a statistical atmosphere. Implications to the construction of statistical atmospheric models and to ENSO predictability are discussed.